DIFFERENTIATION USING THE CHAIN RULE

The Chain Rule is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The following three problems require a more formal use of the chain rule.

1. Assume that , where both *f* and *g* are differentiable functions. If , what is the value of
2. Assume that where *f* is a differentiable function. If and , determine an equation of the tangent line to the graph of *h* at *x* = 0.
3. Given the table below, answer the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | f(x) | f’(x) | g(x) | g’(x) |
| 1 | 1 | 3 | -2 | -1 |
| -2 | -2 | -5 | 1 | 7 |

1. b)

c) d)

e) f)